



Sequence Listing

<110> HENRY CHIU
HILARY CLARK
KATHRYN DENNIS
SHERMAN FONG
JILL SCHOENFELD
WILLIAM WOOD
THOMAS WU

<120> COMPOSITIONS AND METHODS FOR THE TREATMENT OF IMMUNE RELATED DISEASES

<130> P1973R1-US

<140> US 10/614,853
<141> 2003-07-08

<150> US 60/394,485
<151> 2002-07-08

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<211> 1816
<212> DNA
<213> Homo sapien

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<212> PRT
<213> Homo sapien

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35	40	45
Arg Asp Leu Arg Val Glu Pro Val Thr Thr Ser Val Ala Thr Gly		
50	55	60
Asp Tyr Ser Ile Leu Met Asn Val Ser Trp Val Leu Arg Ala Asp		
65	70	75
Ala Ser Ile Arg Leu Leu Lys Ala Thr Lys Ile Cys Val Thr Gly		
80	85	90
Lys Ser Asn Phe Gln Ser Tyr Ser Cys Val Arg Cys Asn Tyr Thr		
95	100	105
Glu Ala Phe Gln Thr Gln Thr Arg Pro Ser Gly Gly Lys Trp Thr		
110	115	120
Phe Ser Tyr Ile Gly Phe Pro Val Glu Leu Asn Thr Val Tyr Phe		
125	130	135
Ile Gly Ala His Asn Ile Pro Asn Ala Asn Met Asn Glu Asp Gly		
140	145	150
Pro Ser Met Ser Val Asn Phe Thr Ser Pro Gly Cys Leu Asp His.		
155	160	165
Ile Met Lys Tyr Lys Lys Cys Val Lys Ala Gly Ser Leu Trp		
170	175	180
Asp Pro Asn Ile Thr Ala Cys Lys Lys Asn Glu Glu Thr Val Glu		
185	190	195
Val Asn Phe Thr Thr Pro Leu Gly Asn Arg Tyr Met Ala Leu		
200	205	210
Ile Gln His Ser Thr Ile Ile Gly Phe Ser Gln Val Phe Glu Pro		
215	220	225
His Gln Lys Lys Gln Thr Arg Ala Ser Val Val Ile Pro Val Thr		
230	235	240
Gly Asp Ser Glu Gly Ala Thr Val Gln Leu Thr Pro Tyr Phe Pro		
245	250	255
Thr Cys Gly Ser Asp Cys Ile Arg His Lys Gly Thr Val Val Leu		
260	265	270
Cys Pro Gln Thr Gly Val Pro Phe Pro Leu Asp Asn Asn Lys Ser		
275	280	285
Lys Pro Gly Gly Trp Leu Pro Leu Leu Leu Leu Ser Leu Leu Val		
290	295	300
Ala Thr Trp Val Leu Val Ala Gly Ile Tyr Leu Met Trp Arg His		
305	310	315

Glu	Arg	Ile	Lys	Lys	Thr	Ser	Phe	Ser	Thr	Thr	Thr	Leu	Leu	Pro
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Pro	Ile	Lys	Val	Leu	Val	Val	Tyr	Pro	Ser	Glu	Ile	Cys	Phe	His
335									340					345
His	Thr	Ile	Cys	Tyr	Phe	Thr	Glu	Phe	Leu	Gln	Asn	His	Cys	Arg
350									355					360
Ser	Glu	Val	Ile	Leu	Glu	Lys	Trp	Gln	Lys	Lys	Lys	Ile	Ala	Glu
365									370					375
Met	Gly	Pro	Val	Gln	Trp	Leu	Ala	Thr	Gln	Lys	Lys	Ala	Ala	Asp
380									385					390
Lys	Val	Val	Phe	Leu	Leu	Ser	Asn	Asp	Val	Asn	Ser	Val	Cys	Asp
395									400					405
Gly	Thr	Cys	Gly	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Glu	Asn	Ser	Gln
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					425									

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 <212> DNA
 <213> Homo sapien

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 aaggctgaac gcagccaaga ccccttcgag aaatgcatgc aggatcctga 200
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 ggattgggaa gctgggagcc atgcgcatgc ccagctctca caggatcctc 450
 cacaagctct gccagggcct ggggctcaac ctgaccaagt tcacccagta 500
 cgacaagaac acgtggacgg aggtgcacga agtgaagctg cgcaactatg 550
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<211> 567
<212> PRT
<213> Homo sapien

<400> 4
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20 25 30
Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu
35 40 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln
 50 55 60
 Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala
 65 70 75
 Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala
 80 85 90
 Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn
 95 100 105
 Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser
 110 115 120
 His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu
 125 130 135
 Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
 140 145 150
 Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys
 155 160 165
 Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu
 170 175 180
 Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys
 185 190 195
 Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr
 200 205 210
 Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala
 215 220 225
 Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr
 230 235 240
 Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp
 245 250 255
 Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro
 260 265 270
 Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala
 275 280 285
 Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln
 290 295 300
 Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala
 305 310 315
 Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile
 320 325 330
 Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg

335	340	345
Arg Leu His Tyr Val Pro Ala Thr Lys	Val Phe Leu Ser Phe Arg	
350	355	360
Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn		
365	370	375
Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu		
380	385	390
Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala		
395	400	405
Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu		
410	415	420
Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp		
425	430	435
Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser		
440	445	450
Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu		
455	460	465
Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly		
470	475	480
Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys		
485	490	495
Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro		
500	505	510
Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu		
515	520	525
Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp		
530	535	540
Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu		
545	550	555
Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His		
560	565	

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 <212> DNA
 <213> Homo sapien

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attttggta aggc 3314

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<212> PRT
<213> Homo sapien

<400> 6
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35 40 45
Gln Ala Asp Thr Val Arg Gly Ala Val Leu Gly Ser Arg Ser Ala
50 55 60
Trp Ala Val Glu Phe Phe Ala Ser Trp Cys Gly His Cys Ile Ala
65 70 75
Phe Ala Pro Thr Trp Lys Ala Leu Ala Glu Asp Val Lys Ala Trp
80 85 90
Arg Pro Ala Leu Tyr Leu Ala Ala Leu Asp Cys Ala Glu Glu Thr
95 100 105
Asn Ser Ala Val Cys Arg Asp Phe Asn Ile Pro Gly Phe Pro Thr
110 115 120
Val Arg Phe Phe Lys Ala Phe Thr Lys Asn Gly Ser Gly Ala Val
125 130 135
Phe Pro Val Ala Gly Ala Asp Val Gln Thr Leu Arg Glu Arg Leu
140 145 150
Ile Asp Ala Leu Glu Ser His His Asp Thr Trp Pro Pro Ala Cys
155 160 165
Pro Pro Leu Glu Pro Ala Lys Leu Glu Glu Ile Asp Gly Phe Phe
170 175 180
Ala Arg Asn Asn Glu Glu Tyr Leu Ala Leu Ile Phe Glu Lys Gly
185 190 195
Gly Ser Tyr Leu Gly Arg Glu Val Ala Leu Asp Leu Ser Gln His

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Lys Gly Val Ala Val Arg Arg Val Leu Asn Thr Glu Ala Asn Val		
215	220	225
Val Arg Lys Phe Gly Val Thr Asp Phe Pro Ser Cys Tyr Leu Leu		
230	235	240
Phe Arg Asn Gly Ser Val Ser Arg Val Pro Val Leu Met Glu Ser		
245	250	255
Arg Ser Phe Tyr Thr Ala Tyr Leu Gln Arg Leu Ser Gly Leu Thr		
260	265	270
Arg Glu Ala Ala Gln Thr Thr Val Ala Pro Thr Thr Ala Asn Lys		
275	280	285
Ile Ala Pro Thr Val Trp Lys Leu Ala Asp Arg Ser Lys Ile Tyr		
290	295	300
Met Ala Asp Leu Glu Ser Ala Leu His Tyr Ile Leu Arg Ile Glu		
305	310	315
Val Gly Arg Phe Pro Val Leu Glu Gly Gln Arg Leu Val Ala Leu		
320	325	330
Lys Lys Phe Val Ala Val Leu Ala Lys Tyr Phe Pro Gly Arg Pro		
335	340	345
Leu Val Gln Asn Phe Leu His Ser Val Asn Glu Trp Leu Lys Arg		
350	355	360
Gln Lys Arg Asn Lys Ile Pro Tyr Ser Phe Phe Lys Thr Ala Leu		
365	370	375
Asp Asp Arg Lys Glu Gly Ala Val Leu Ala Lys Lys Val Asn Trp		
380	385	390
Ile Gly Cys Gln Gly Ser Glu Pro His Phe Arg Gly Phe Pro Cys		
395	400	405
Ser Leu Trp Val Leu Phe His Phe Leu Thr Val Gln Ala Ala Arg		
410	415	420
Gln Asn Val Asp His Ser Gln Glu Ala Ala Lys Ala Lys Glu Val		
425	430	435
Leu Pro Ala Ile Arg Gly Tyr Val His Tyr Phe Phe Gly Cys Arg		
440	445	450
Asp Cys Ala Ser His Phe Glu Gln Met Ala Ala Ala Ser Met His		
455	460	465
Arg Val Gly Ser Pro Asn Ala Ala Val Leu Trp Leu Trp Ser Ser		
470	475	480
His Asn Arg Val Asn Ala Arg Leu Ala Gly Ala Pro Ser Glu Asp		
485	490	495

Pro Gln Phe Pro Lys Val Gln Trp Pro Pro Arg Glu Leu Cys Ser
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 Ala Cys His Asn Glu Arg Leu Asp Val Pro Val Trp Asp Val Glu
 515 520 525
 Ala Thr Leu Asn Phe Leu Lys Ala His Phe Ser Pro Ser Asn Ile
 530 535 540
 Ile Leu Asp Phe Pro Ala Ala Gly Ser Ala Ala Arg Arg Asp Val
 545 550 555
 Gln Asn Val Ala Ala Pro Glu Leu Ala Met Gly Ala Leu Glu
 560 565 570
 Leu Glu Ser Arg Asn Ser Thr Leu Asp Pro Gly Lys Pro Glu Met
 575 580 585
 Met Lys Ser Pro Thr Asn Thr Pro His Val Pro Ala Glu Gly
 590 595 600
 Pro Glu Ala Ser Arg Pro Pro Lys Leu His Pro Gly Leu Arg Ala
 605 610 615
 Ala Pro Gly Gln Glu Pro Pro Glu His Met Ala Glu Leu Gln Arg
 620 625 630
 Asn Glu Gln Glu Gln Pro Leu Gly Gln Trp His Leu Ser Lys Arg
 635 640 645
 Asp Thr Gly Ala Ala Leu Leu Ala Glu Ser Arg Ala Glu Lys Asn
 650 655 660
 Arg Leu Trp Gly Pro Leu Glu Val Arg Arg Val Gly Arg Ser Ser
 665 670 675
 Lys Gln Leu Val Asp Ile Pro Glu Gly Gln Leu Glu Ala Arg Ala
 680 685 690
 Gly Arg Gly Arg Gly Gln Trp Leu Gln Val Leu Gly Gly Gly Phe
 695 700 705
 Ser Tyr Leu Asp Ile Ser Leu Cys Val Gly Leu Tyr Ser Leu Ser
 710 715 720
 Phe Met Gly Leu Leu Ala Met Tyr Thr Tyr Phe Gln Ala Lys Ile
 725 730 735
 Arg Ala Leu Lys Gly His Ala Gly His Pro Ala Ala
 740 745

<210> 7
 <211> 4565
 <212> DNA
 <213> Homo sapien

<400> 7
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<210> 8
<211> 802
<212> PRT
<213> Homo sapien

<400> 8
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35 40 45
Glu Gly Cys Arg Ser Gly Gln Ala Ala Ala Ser Gln Ala Gly Gly
50 55 60
Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
65 70 75
Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly
80 85 90
Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala
95 100 105
Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe
110 115 120
Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro
125 130 135
Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe
140 145 150
Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu
155 160 165
Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg
170 175 180
Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe
185 190 195
Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu
200 205 210
Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val
215 220 225

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly
 230 235 240
 Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val
 245 250 255
 Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser
 260 265 270
 Tyr Glu Met Gln Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys
 275 280 285
 Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala
 290 295 300
 Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu
 305 310 315
 His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg
 320 325 330
 Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser
 335 340 345
 Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro
 350 355 360
 Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu
 365 370 375
 Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly
 380 385 390
 Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu
 395 400 405
 Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala
 410 415 420
 Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly
 425 430 435
 Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp
 440 445 450
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 455 460 465
 Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile
 470 475 480
 Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys
 485 490 495
 Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser
 500 505 510
 Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu

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His Lys Glu Pro Lys Asp Lys Lys Ile Asn Ile Leu Ile Pro Leu		
530	535	540
Ser Gly Arg Phe Asp Met Phe Val Arg Phe Met Gly Asn Phe Glu		
545	550	555
Lys Thr Cys Leu Ile Pro Asn Gln Asn Val Lys Leu Val Val Leu		
560	565	570
Leu Phe Asn Ser Asp Ser Asn Pro Asp Lys Ala Lys Gln Val Glu		
575	580	585
Leu Met Thr Asp Tyr Arg Ile Lys Tyr Pro Lys Ala Asp Met Gln		
590	595	600
Ile Leu Pro Val Ser Gly Glu Phe Ser Arg Ala Leu Ala Leu Glu		
605	610	615
Val Gly Ser Ser Gln Phe Asn Asn Glu Ser Leu Leu Phe Phe Cys		
620	625	630
Asp Val Asp Leu Val Phe Thr Thr Glu Phe Leu Gln Arg Cys Arg		
635	640	645
Ala Asn Thr Val Leu Gly Gln Gln Ile Tyr Phe Pro Ile Ile Phe		
650	655	660
Ser Gln Tyr Asp Pro Lys Ile Val Tyr Ser Gly Lys Val Pro Ser		
665	670	675
Asp Asn His Phe Ala Phe Thr Gln Lys Thr Gly Phe Trp Arg Asn		
680	685	690
Tyr Gly Phe Gly Ile Thr Cys Ile Tyr Lys Gly Asp Leu Val Arg		
695	700	705
Val Gly Gly Phe Asp Val Ser Ile Gln Gly Trp Gly Leu Glu Asp		
710	715	720
Val Asp Leu Phe Asn Lys Val Val Gln Ala Gly Leu Lys Thr Phe		
725	730	735
Arg Ser Gln Glu Val Gly Val Val His Val His His Pro Val Phe		
740	745	750
Cys Asp Pro Asn Leu Asp Pro Lys Gln Tyr Lys Met Cys Leu Gly		
755	760	765
Ser Lys Ala Ser Thr Tyr Gly Ser Thr Gln Gln Leu Ala Glu Met		
770	775	780
Trp Leu Glu Lys Asn Asp Pro Ser Tyr Ser Lys Ser Ser Asn Asn		
785	790	795
Asn Gly Ser Val Arg Thr Ala		
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<210> 9
<211> 2176
<212> DNA
<213> Homo sapien

<400> 9
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<210> 10
<211> 697
<212> PRT
<213> Homo sapien

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35 40 45
Pro Arg Gln Asp Trp Thr Gly Ser Thr Pro Ala Tyr Gly Tyr Trp
50 55 60
Phe Lys Ala Val Thr Glu Thr Lys Gly Ala Pro Val Ala Thr
65 70 75
Asn His Gln Ser Arg Glu Val Glu Met Ser Thr Arg Gly Arg Phe

80	85	90
Gln Leu Thr Gly Asp Pro Ala Lys Gly Asn Cys Ser Leu Val Ile		
95	100	105
Arg Asp Ala Gln Met Gln Asp Glu Ser Gln Tyr Phe Phe Arg Val		
110	115	120
Glu Arg Gly Ser Tyr Val Arg Tyr Asn Phe Met Asn Asp Gly Phe		
125	130	135
Phe Leu Lys Val Thr Ala Leu Thr Gln Lys Pro Asp Val Tyr Ile		
140	145	150
Pro Glu Thr Leu Glu Pro Gly Gln Pro Val Thr Val Ile Cys Val		
155	160	165
Phe Asn Trp Ala Phe Glu Glu Cys Pro Pro Pro Ser Phe Ser Trp		
170	175	180
Thr Gly Ala Ala Leu Ser Ser Gln Gly Thr Lys Pro Thr Thr Ser		
185	190	195
His Phe Ser Val Leu Ser Phe Thr Pro Arg Pro Gln Asp His Asn		
200	205	210
Thr Asp Leu Thr Cys His Val Asp Phe Ser Arg Lys Gly Val Ser		
215	220	225
Val Gln Arg Thr Val Arg Leu Arg Val Ala Tyr Ala Pro Arg Asp		
230	235	240
Leu Val Ile Ser Ile Ser Arg Asp Asn Thr Pro Ala Leu Glu Pro		
245	250	255
Gln Pro Gln Gly Asn Val Pro Tyr Leu Glu Ala Gln Lys Gly Gln		
260	265	270
Phe Leu Arg Leu Leu Cys Ala Ala Asp Ser Gln Pro Pro Ala Thr		
275	280	285
Leu Ser Trp Val Leu Gln Asn Arg Val Leu Ser Ser Ser His Pro		
290	295	300
Trp Gly Pro Arg Pro Leu Gly Leu Glu Leu Pro Gly Val Lys Ala		
305	310	315
Gly Asp Ser Gly Arg Tyr Thr Cys Arg Ala Glu Asn Arg Leu Gly		
320	325	330
Ser Gln Gln Arg Ala Leu Asp Leu Ser Val Gln Tyr Pro Pro Glu		
335	340	345
Asn Leu Arg Val Met Val Ser Gln Ala Asn Arg Thr Val Leu Glu		
350	355	360
Asn Leu Gly Asn Gly Thr Ser Leu Pro Val Leu Glu Gly Gln Ser		
365	370	375

Leu Cys Leu Val Cys Val Thr His Ser Ser Pro Pro Ala Arg Leu
 380 385 390
 Ser Trp Thr Gln Arg Gly Gln Val Leu Ser Pro Ser Gln Pro Ser
 395 400 405
 Asp Pro Gly Val Leu Glu Leu Pro Arg Val Gln Val Glu His Glu
 410 415 420
 Gly Glu Phe Thr Cys His Ala Arg His Pro Leu Gly Ser Gln His
 425 430 435
 Val Ser Leu Ser Leu Ser Val His Tyr Ser Pro Lys Leu Leu Gly
 440 445 450
 Pro Ser Cys Ser Trp Glu Ala Glu Gly Leu His Cys Ser Cys Ser
 455 460 465
 Ser Gln Ala Ser Pro Ala Pro Ser Leu Arg Trp Trp Leu Gly Glu
 470 475 480
 Glu Leu Leu Glu Gly Asn Ser Ser Gln Asp Ser Phe Glu Val Thr
 485 490 495
 Pro Ser Ser Ala Gly Pro Trp Ala Asn Ser Ser Leu Ser Leu His
 500 505 510
 Gly Gly Leu Ser Ser Gly Leu Arg Leu Arg Cys Glu Ala Trp Asn
 515 520 525
 Val His Gly Ala Gln Ser Gly Ser Ile Leu Gln Leu Pro Asp Lys
 530 535 540
 Lys Gly Leu Ile Ser Thr Ala Phe Ser Asn Gly Ala Phe Leu Gly
 545 550 555
 Ile Gly Ile Thr Ala Leu Leu Phe Leu Cys Leu Ala Leu Ile Ile
 560 565 570
 Met Lys Ile Leu Pro Lys Arg Arg Thr Gln Thr Glu Thr Pro Arg
 575 580 585
 Pro Arg Phe Ser Arg His Ser Thr Ile Leu Asp Tyr Ile Asn Val
 590 595 600
 Val Pro Thr Ala Gly Pro Leu Ala Gln Lys Arg Asn Gln Lys Ala
 605 610 615
 Thr Pro Asn Ser Pro Arg Thr Pro Leu Pro Pro Gly Ala Pro Ser
 620 625 630
 Pro Glu Ser Lys Lys Asn Gln Lys Lys Gln Tyr Gln Leu Pro Ser
 635 640 645
 Phe Pro Glu Pro Lys Ser Ser Thr Gln Ala Pro Glu Ser Gln Glu
 650 655 660
 Ser Gln Glu Glu Leu His Tyr Ala Thr Leu Asn Phe Pro Gly Val

665

670

675

Arg Pro Arg Pro Glu Ala Arg Met Pro Lys Gly Thr Gln Ala Asp
680 685 690

Tyr Ala Glu Val Lys Phe Gln
695

<210> 11

<211> 1724

<212> DNA

<213> Homo sapien

<400> 11

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<210> 12
<211> 283
<212> PRT
<213> Homo sapien

<400> 12
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35 40 45
Glu Tyr Pro Val Gly Ser Glu Cys Cys Pro Lys Cys Ser Pro Gly
50 55 60
Tyr Arg Val Lys Glu Ala Cys Gly Glu Leu Thr Gly Thr Val Cys
65 70 75
Glu Pro Cys Pro Pro Gly Thr Tyr Ile Ala His Leu Asn Gly Leu
80 85 90
Ser Lys Cys Leu Gln Cys Gln Met Cys Asp Pro Ala Met Gly Leu
95 100 105
Arg Ala Ser Arg Asn Cys Ser Arg Thr Glu Asn Ala Val Cys Gly
110 115 120
Cys Ser Pro Gly His Phe Cys Ile Val Gln Asp Gly Asp His Cys
125 130 135

Ala Ala Cys Arg Ala Tyr Ala Thr Ser Ser Pro Gly Gln Arg Val
 140 145 150
 Gln Lys Gly Gly Thr Glu Ser Gln Asp Thr Leu Cys Gln Asn Cys
 155 160 165
 Pro Pro Gly Thr Phe Ser Pro Asn Gly Thr Leu Glu Glu Cys Gln
 170 175 180
 His Gln Thr Lys Cys Ser Trp Leu Val Thr Lys Ala Gly Ala Gly
 185 190 195
 Thr Ser Ser Ser His Trp Val Trp Trp Phe Leu Ser Gly Ser Leu
 200 205 210
 Val Ile Val Ile Val Cys Ser Thr Val Gly Leu Ile Ile Cys Val
 215 220 225
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 230 235 240
 Val Gln Arg Lys Arg Gln Glu Ala Glu Gly Glu Ala Thr Val Ile
 245 250 255
 Glu Ala Leu Gln Ala Pro Pro Asp Val Thr Thr Val Ala Val Glu
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 Glu Thr Ile Pro Ser Phe Thr Gly Arg Ser Pro Asn His
 275 280

<210> 13
 <211> 1002
 <212> DNA
 <213> Homo sapien

<400> 13
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 aatgatgtt cctgtgttgtt ctaagctgga atctggcac cttccatcca 550

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aa 1002

<210> 14
<211> 163
<212> PRT
<213> Homo sapien

<220>
<221> Unsure
<222> 17
<223> Unknown amino acid

<400> 14
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Ser Gln Arg Tyr Pro Asp Ile Arg Ile Glu Gly Glu Asn Tyr Leu
35 40 45
Pro Gln Pro Ile Tyr Arg His Ile Ala Ser Phe Leu Ser Val Phe
50 55 60
Lys Leu Val Leu Ile Gly Leu Ile Ile Val Gly Lys Asp Pro Phe
65 70 75
Ala Phe Phe Gly Met Gln Ala Pro Ser Ile Trp Gln Trp Gly Gln
80 85 90
Glu Asn Lys Val Tyr Ala Cys Met Met Val Phe Phe Leu Ser Asn
95 100 105
Met Ile Glu Asn Gln Cys Met Ser Thr Gly Ala Phe Glu Ile Thr
110 115 120
Leu Asn Asp Val Pro Val Trp Ser Lys Leu Glu Ser Gly His Leu
125 130 135

Pro Ser Met Gln Gln Leu Val Gln Ile Leu Asp Asn Glu Met Lys
140 145 150

Leu Asn Val His Met Asp Ser Ile Pro His His Arg Ser
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<210> 15

<211> 3002

<212> DNA

<213> Homo sapien

<400> 15

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agacatggca cagtagccag cttggagact tctcagccaa tgctctgaga 400
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aaacatttac atattttgtta gtattgttat gacagcagag ggtgatgctc 550
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cagacattca cagagtAAA tgaAGAGTCT cgAGGTTCTA caatCTCTCT 2900
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tg 3002

<210> 16
<211> 811
<212> PRT
<213> Homo sapien

<400> 16
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Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp
35 40 45
Leu Thr Pro Ala Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu
50 55 60
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg
65 70 75
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys
80 85 90
Thr Phe Glu Phe Asn Lys Glu Leu Arg Tyr Leu Asp Leu Ser Asn
95 100 105
Asn Arg Leu Lys Ser Val Thr Trp Tyr Leu Leu Ala Gly Leu Arg
110 115 120
Tyr Leu Asp Leu Ser Phe Asn Asp Phe Asp Thr Met Pro Ile Cys
125 130 135
Glu Glu Ala Gly Asn Met Ser His Leu Glu Ile Leu Gly Leu Ser
140 145 150
Gly Ala Lys Ile Gln Lys Ser Asp Phe Gln Lys Ile Ala His Leu
155 160 165
His Leu Asn Thr Val Phe Leu Gly Phe Arg Thr Leu Pro His Tyr

170	175	180
Glu Glu Gly Ser Leu Pro Ile Leu Asn	Thr Thr Lys Leu His Ile	
185	190	195
Val Leu Pro Met Asp Thr Asn Phe Trp	Val Leu Leu Arg Asp Gly	
200	205	210
Ile Lys Thr Ser Lys Ile Leu Glu Met	Thr Asn Ile Asp Gly Lys	
215	220	225
Ser Gln Phe Val Ser Tyr Glu Met Gln	Arg Asn Leu Ser Leu Glu	
230	235	240
Asn Ala Lys Thr Ser Val Leu Leu Asn	Lys Val Asp Leu Leu	
245	250	255
Trp Asp Asp Leu Phe Leu Ile Leu Gln	Phe Val Trp His Thr Ser	
260	265	270
Val Glu His Phe Gln Ile Arg Asn Val	Thr Phe Gly Gly Lys Ala	
275	280	285
Tyr Leu Asp His Asn Ser Phe Asp Tyr	Ser Asn Thr Val Met Arg	
290	295	300
Thr Ile Lys Leu Glu His Val His Phe	Arg Val Phe Tyr Ile Gln	
305	310	315
Gln Asp Lys Ile Tyr Leu Leu Thr Lys	Met Asp Ile Glu Asn	
320	325	330
Leu Thr Ile Ser Asn Ala Gln Met Pro	His Met Leu Phe Pro Asn	
335	340	345
Tyr Pro Thr Lys Phe Gln Tyr Leu Asn	Phe Ala Asn Asn Ile Leu	
350	355	360
Thr Asp Glu Leu Phe Lys Arg Thr Ile	Gln Leu Pro His Leu Lys	
365	370	375
Thr Leu Ile Leu Asn Gly Asn Lys Leu	Glu Thr Leu Ser Leu Val	
380	385	390
Ser Cys Phe Ala Asn Asn Thr Pro Leu	Glu His Leu Asp Leu Ser	
395	400	405
Gln Asn Leu Leu Gln His Lys Asn Asp	Glu Asn Cys Ser Trp Pro	
410	415	420
Glu Thr Val Val Asn Met Asn Leu Ser	Tyr Asn Lys Leu Ser Asp	
425	430	435
Ser Val Phe Arg Cys Leu Pro Lys Ser	Ile Gln Ile Leu Asp Leu	
440	445	450
Asn Asn Asn Gln Ile Gln Thr Val Pro	Lys Glu Thr Ile His Leu	
455	460	465

Met Ala Leu Arg Glu Leu Asn Ile Ala Phe Asn Phe Leu Thr Asp
 470 475 480
 Leu Pro Gly Cys Ser His Phe Ser Arg Leu Ser Val Leu Asn Ile
 485 490 495
 Glu Met Asn Phe Ile Leu Ser Pro Ser Leu Asp Phe Val Gln Ser
 500 505 510
 Cys Gln Glu Val Lys Thr Leu Asn Ala Gly Arg Asn Pro Phe Arg
 515 520 525
 Cys Thr Cys Glu Leu Lys Asn Phe Ile Gln Leu Glu Thr Tyr Ser
 530 535 540
 Glu Val Met Met Val Gly Trp Ser Asp Ser Tyr Thr Cys Glu Tyr
 545 550 555
 Pro Leu Asn Leu Arg Gly Ile Arg Leu Lys Asp Val His Leu His
 560 565 570
 Glu Leu Ser Cys Asn Thr Ala Leu Leu Ile Val Thr Ile Val Val
 575 580 585
 Ile Met Leu Val Leu Gly Leu Ala Val Ala Phe Cys Cys Leu His
 590 595 600
 Phe Asp Leu Pro Trp Tyr Leu Arg Met Leu Gly Gln Cys Thr Gln
 605 610 615
 Thr Trp His Arg Val Arg Lys Thr Thr Gln Glu Gln Leu Lys Arg
 620 625 630
 Asn Val Arg Phe His Ala Phe Ile Ser Tyr Ser Glu His Asp Ser
 635 640 645
 Leu Trp Val Lys Asn Glu Leu Ile Pro Asn Leu Glu Lys Glu Asp
 650 655 660
 Gly Ser Ile Leu Ile Cys Leu Tyr Glu Ser Tyr Phe Asp Pro Gly
 665 670 675
 Lys Ser Ile Ser Glu Asn Ile Val Ser Phe Ile Glu Lys Ser Tyr
 680 685 690
 Lys Ser Ile Phe Val Leu Ser Pro Asn Phe Val Gln Asn Glu Trp
 695 700 705
 Cys His Tyr Glu Phe Tyr Phe Ala His His Asn Leu Phe His Glu
 710 715 720
 Asn Ser Asp His Ile Ile Leu Ile Leu Leu Glu Pro Ile Pro Phe
 725 730 735
 Tyr Cys Ile Pro Thr Arg Tyr His Lys Leu Lys Ala Leu Leu Glu
 740 745 750
 Lys Lys Ala Tyr Leu Glu Trp Pro Lys Asp Arg Arg Lys Cys Gly

755	760	765
Leu Phe Trp Ala Asn Leu Arg Ala Ala Ile Asn Val Asn Val Leu		
770	775	780
Ala Thr Arg Glu Met Tyr Glu Leu Gln Thr Phe Thr Glu Leu Asn		
785	790	795
Glu Glu Ser Arg Gly Ser Thr Ile Ser Leu Met Arg Thr Asp Cys		
800	805	810

Leu

<210> 17
<211> 1911
<212> DNA
<213> Homo sapien

<400> 17
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tgcttatcct t 1911

<210> 18
<211> 291
<212> PRT
<213> Homo sapien

<400> 18
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Arg Glu Lys Phe His Gly Lys Val Ser Ser Lys Lys Ala Gly Ala
20 25 30
Leu Met Arg Lys Phe Gly Ser Asp His Thr Gly Val Gly Arg Ser
35 40 45
Ile Val Tyr Gly Val Lys Gln Lys Asp Gly Gln Glu Leu Ser Asn
50 55 60

Asp	Leu	Asp	Ala	Gln	Asp	Pro	Pro	Glu	Asp	Met	Lys	Gln	Asp	Arg
						65				70				75
Asp	Ile	Gln	Ala	Val	Ala	Thr	Ser	Leu	Leu	Pro	Leu	Thr	Glu	Ala
						80			85					90
Asn	Leu	Arg	Met	Phe	Gln	Arg	Ala	Gln	Asp	Asp	Leu	Ile	Pro	Ala
						95			100					105
Val	Asp	Arg	Gln	Phe	Ala	Cys	Ser	Ser	Cys	Asp	His	Val	Trp	Trp
						110			115					120
Arg	Arg	Val	Pro	Gln	Arg	Lys	Glu	Val	Ser	Arg	Cys	Arg	Lys	Cys
						125			130					135
Arg	Lys	Arg	Tyr	Glu	Pro	Val	Pro	Ala	Asp	Lys	Met	Trp	Gly	Leu
						140			145					150
Ala	Glu	Phe	His	Cys	Pro	Lys	Cys	Arg	His	Asn	Phe	Arg	Gly	Trp
						155			160					165
Ala	Gln	Met	Gly	Ser	Pro	Ser	Pro	Cys	Tyr	Gly	Cys	Gly	Phe	Pro
						170			175					180
Val	Tyr	Pro	Thr	Arg	Ile	Leu	Pro	Pro	Arg	Arg	Asp	Arg	Asp	Pro
						185			190					195
Asp	Arg	Arg	Ser	Thr	His	Thr	His	Ser	Cys	Ser	Ala	Ala	Asp	Cys
						200			205					210
Tyr	Asn	Arg	Arg	Glu	Pro	His	Val	Pro	Gly	Thr	Ser	Cys	Ala	His
						215			220					225
Pro	Lys	Ser	Arg	Lys	Gln	Asn	His	Leu	Pro	Lys	Val	Leu	His	Pro
						230			235					240
Ser	Asn	Pro	His	Ile	Ser	Ser	Gly	Pro	Thr	Val	Ala	Thr	Cys	Leu
						245			250					255
Ser	Gln	Gly	Gly	Leu	Leu	Glu	Asp	Leu	Asp	Asn	Leu	Ile	Leu	Glu
						260			265					270
Asp	Leu	Lys	Glu	Val	Glu	Asp	Glu							
						275			280					285
Glu	Gly	Gly	Pro	Arg	Glu									
					290									

<210> 19

<211> 1603

<212> DNA

<213> Homo sapien

<400> 19

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aaa 1603

<210> 20

<211> 305

<212> PRT

<213> Homo sapien

<400> 20

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Gly Leu Val Thr Leu Leu Gly Leu Ala Val Gly Ser Tyr Leu Val
20 25 30

Arg Arg Ser Arg Arg Pro Gln Val Thr Leu Leu Asp Pro Asn Glu
35 40 45

Lys Tyr Leu Leu Arg Leu Leu Asp Lys Thr Thr Val Ser His Asn
50 55 60

Thr Lys Arg Phe Arg Phe Ala Leu Pro Thr Ala His His Thr Leu
65 70 75

Gly Leu Pro Val Gly Lys His Ile Tyr Leu Ser Thr Arg Ile Asp
80 85 90

Gly Asn Leu Val Ile Arg Pro Tyr Thr Pro Val Thr Ser Asp Glu
95 100 105

Asp Gln Gly Tyr Val Asp Leu Val Ile Lys Val Tyr Leu Lys Gly
110 115 120

Val His Pro Lys Phe Pro Glu Gly Gly Lys Met Ser Gln Tyr Leu
125 130 135

Asp Ser Leu Lys Val Gly His Val Val Glu Phe Arg Gly Pro Ser
140 145 150

Gly Leu Leu Thr Tyr Thr Gly Lys Gly His Phe Asn Ile Gln Pro
155 160 165

Asn Lys Lys Ser Pro Pro Glu Pro Arg Val Ala Lys Lys Leu Gly
170 175 180

Met Ile Ala Gly Gly Thr Gly Ile Thr Pro Met Leu Gln Leu Ile
185 190 195

Arg Ala Ile Leu Lys Val Pro Glu Asp Pro Thr Gln Cys Phe Leu
200 205 210

Leu Phe Ala Asn Gln Thr Glu Lys Asp Ile Ile Leu Arg Glu Asp
215 220 225

Leu Glu Glu Leu Gln Ala Arg Tyr Pro Asn Arg Phe Lys Leu Trp
230 235 240

Phe	Thr	Leu	Asp	His	Pro	Pro	Lys	Asp	Trp	Ala	Tyr	Ser	Lys	Gly
245									250					255
Phe	Val	Thr	Ala	Asp	Met	Ile	Arg	Glu	His	Leu	Pro	Ala	Pro	Gly
260									265					270
Asp	Asp	Val	Leu	Val	Leu	Leu	Cys	Gly	Pro	Pro	Pro	Met	Val	Gln
275									280					285
Leu	Ala	Cys	His	Pro	Asn	Leu	Asp	Lys	Leu	Gly	Tyr	Ser	Gln	Lys
290									295					300
Met	Arg	Phe	Thr	Tyr										
					305									

<210> 21
<211> 2728
<212> DNA
<213> Homo sapien

<400> 21
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<212> PRT
<213> Homo sapien

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Ala Gly Glu Lys Val Asn Phe Ile Thr Trp Leu Phe Asn Glu Thr
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Ser Tyr Ser Leu Gln Leu Ser Asn Leu Lys Met Glu Asp Thr Gly
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Val Ser Trp Asp Pro Arg Ile Ser Ser Glu Gln Asp Tyr Thr Cys
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Ile Ala Glu Asn Ala Val Ser Asn Leu Ser Phe Ser Val Ser Ala
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Leu Glu Tyr Val Ser Val Ser Pro Thr Asn Asn Thr Val Tyr Ala
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<212> DNA
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<211> 451
<212> PRT
<213> Homo sapien

<400> 24

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Lys	Glu	Glu	Phe	Pro	Asn	Glu	Asn	Gln	Val	Val	Phe	Ala	Arg	Val
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Ala	Glu	Ile	Thr	Thr	Leu	Asp	Arg	Ser	Lys	Arg	Asn	Ile	Ile	Gly
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Tyr	Phe	Glu	Gln	Lys	Asp	Ser	Asp	Asn	Tyr	Arg	Val	Phe	Glu	Arg
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Val	Ala	Asn	Ile	Leu	His	Asp	Asp	Cys	Ala	Phe	Leu	Ser	Ala	Phe
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Gly	Asp	Val	Ser	Lys	Pro	Glu	Arg	Tyr	Ser	Gly	Asp	Asn	Ile	Ile
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Glu	Asp	Thr	Glu	Ser	Leu	Glu	Ile	Phe	Gln	Asn	Glu	Val	Ala	Arg
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Ala	Asp	Cys	Pro	Val	Ile	Ala	Ile	Asp	Ser	Phe	Arg	His	Met	Tyr
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Val	Phe	Gly	Asp	Phe	Lys	Asp	Val	Leu	Ile	Pro	Gly	Lys	Leu	Lys
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Gln	Phe	Val	Phe	Asp	Leu	His	Ser	Gly	Lys	Leu	His	Arg	Glu	Phe
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His	His	Gly	Pro	Asp	Pro	Thr	Asp	Thr	Ala	Pro	Gly	Glu	Gln	Ala
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Gln	Asp	Val	Ala	Ser	Ser	Pro	Pro	Glu	Ser	Ser	Phe	Gln	Lys	Leu
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Leu

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<212> DNA
<213> Homo sapien

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<210> 26
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Asn Thr His His Arg Val Arg Leu His Ser His Asp Ile Lys Tyr
50 55 60
Gly Ser Gly Ser Gly Gln Gln Ser Val Thr Gly Val Glu Ala Ser
65 70 75
Asp Asp Ala Asn Ser Tyr Trp Arg Ile Arg Gly Gly Ser Glu Gly
80 85 90
Gly Cys Pro Cys Gly Ser Pro Val Arg Cys Gly Gln Ala Val Arg
95 100 105
Leu Thr His Val Leu Thr Gly Lys Asn Leu His Thr His His Phe
110 115 120
Pro Ser Pro Leu Ser Asn Asn Gln Glu Val Ser Ala Phe Gly Glu
125 130 135
Asp Gly Glu Gly Asp Asp Leu Asp Leu Trp Thr Val Arg Cys Ser
140 145 150
Gly Gln His Trp Glu Arg Glu Ala Ala Val Arg Leu Gln His Val
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Gly Thr Ser Val Phe Leu Ser Val Thr Gly Glu Gln Tyr Gly Ser

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<212> PRT

<213> Homo sapien

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Cys	His	Arg	Cys	Arg	Gly	Leu	Val	Asp	Lys	Phe	Asn	Gln	Gly	Met
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Glu	Glu	Lys	Thr	Leu	Ser	Lys	Tyr	Glu	Ser	Ser	Glu	Ile	Arg	Leu
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Leu	Glu	Ile	Leu	Glu	Gly	Leu	Cys	Glu	Ser	Ser	Asp	Phe	Glu	Cys
				80				85						90
Asn	Gln	Met	Leu	Glu	Ala	Gln	Glu	Glu	His	Leu	Glu	Ala	Trp	Trp
			95					100						105
Leu	Gln	Leu	Lys	Ser	Glu	Tyr	Pro	Asp	Leu	Phe	Glu	Trp	Phe	Cys
			110					115						120
Val	Lys	Thr	Leu	Lys	Val	Cys	Cys	Ser	Pro	Gly	Thr	Tyr	Gly	Pro
			125					130						135
Asp	Cys	Leu	Ala	Cys	Gln	Gly	Gly	Ser	Gln	Arg	Pro	Cys	Ser	Gly
			140					145						150
Asn	Gly	His	Cys	Ser	Gly	Asp	Gly	Ser	Arg	Gln	Gly	Asp	Gly	Ser
			155					160						165
Cys	Arg	Cys	His	Met	Gly	Tyr	Gln	Gly	Pro	Leu	Cys	Thr	Asp	Cys
			170					175						180
Met	Asp	Gly	Tyr	Phe	Ser	Ser	Leu	Arg	Asn	Glu	Thr	His	Ser	Ile
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Cys	Thr	Ala	Cys	Asp	Glu	Ser	Cys	Lys	Thr	Cys	Ser	Gly	Leu	Thr
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Asn Arg Asp Cys Gly Glu Cys Glu Val Gly Trp Val Leu Asp Glu
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Gly Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Pro Pro Pro
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Cys Ser Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr
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Cys Glu Asp Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val
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Arg Lys Asn Glu Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys
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Val Cys Pro Asp Gly Phe Glu Glu Thr Glu Asp Ala Cys Val Pro
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Pro Ala Glu Ala Glu Ala Thr Glu Gly Glu Ser Pro Thr Gln Leu
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Pro Ser Arg Glu Asp Leu
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